



Australian Government

AHCMAR301 Conduct a subtidal marine monitoring operation from a vessel or platform

Release: 1

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Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to conduct a subtidal marine monitoring operation from a vessel or platform associated with scientific research, baseline monitoring or inspection and assessment programs for marine areas. It does not involve diving for scientific purposes.

The unit applies to individuals who work in a marine conservation and management role under broad supervision and take responsibility for their own work. They use discretion and judgement in the selection, allocation and use of available resources and for solving problems.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Marine (MAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan subtidal marine monitoring operations	1.1 Identify marine monitoring objectives from monitoring program, and confirm with supervisor and experts 1.2 Determine equipment and personnel required for marine monitoring operations 1.3 Determine timing of monitoring program in consideration of

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	environmental and logistical factors 1.4 Prepare a plan and timeline for a marine monitoring program
2. Prepare for subtidal marine monitoring operations	2.1 Confirm permission for marine monitoring program has been approved, and notify stakeholders 2.2 Assemble required marine monitoring, logistical and support equipment and materials 2.3 Check equipment for compliance with biosecurity requirements 2.4 Check operation of underwater equipment and integrity of waterproof seals 2.5 Lubricate, repair or replace components according to manufacturer instructions 2.6 Prepare equipment and materials for transport 2.7 Identify hazards, assess risks and implement controls according to workplace health and safety procedures 2.8 Review operating and emergency procedures for marine monitoring program, and brief personnel
3. Conduct subtidal marine monitoring operation	3.1 Transport equipment and materials to monitoring location 3.2 Prepare subtidal marine monitoring equipment for deployment according to operator instructions and biosecurity procedures 3.3 Deploy equipment and implement monitoring procedure 3.4 Record marine monitoring data 3.5 Monitor the program and make and record adjustments according to program requirements
4. Conduct post-monitoring operations	4.1 Secure and download recorded data 4.2 Clean, service and maintain marine monitoring equipment according to manufacturer instructions and biosecurity requirements 4.3 Organise repair or replacement of faulty equipment 4.4 Store marine monitoring equipment in line with manufacturer's instructions 4.5 Record incidents, and lead a debrief after marine monitoring operations

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Writing	Accurately record monitoring information using industry specific language and workplace format and protocols
Oral communication	Interact supervisor using collaborative and inclusive techniques, including active listening and questioning and reading of non-verbal signals, to convey and clarify monitoring instructions and actions

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCMAR301 Conduct a subtidal marine monitoring operation from a vessel or platform	Not applicable	The unit has been created to address an emerging skill or task required by industry	Newly created

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCMAR301 Conduct a subtidal marine monitoring operation from a vessel or platform

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Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has conducted at least two subtidal monitoring operations for benthic and fish communities using different techniques selected from the following:

- drop cameras
- baited remote underwater video stations (BRUVS)
- remotely piloted system.

There must also be evidence that the individual has:

- planned a subtidal marine monitoring operation from a vessel or platform for both benthic and fish communities
- obtained and assembled equipment and materials for subtidal marine monitoring operations
- checked the operation of underwater equipment, with particular attention to:
 - tethers, attachments, mounts and retrieval systems
 - seals and O-rings
 - soft pads
 - electrical connections/power supply
 - lenses and protective covers
- lubricated, cleaned, maintained and repaired underwater equipment
- briefed and de-briefed personnel on marine monitoring activity
- transported equipment and materials for subtidal marine monitoring to monitoring site
- stored equipment and consumables for subtidal marine monitoring
- implemented biosecurity measures
- secured and stored recorded data.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- interpreting forecasts for marine weather, tides and sea conditions
- basic physics of the underwater environment and the relationships between equipment/monitoring techniques and depth, pressure, flow and light penetration
- computer hardware and software systems that support marine monitoring work
- marine monitoring equipment, including underwater equipment and housings
- risks associated with monitoring equipment, including:
 - condensation
 - pressure
 - water flow
 - retrieval complications
 - maintenance – including age, contamination and corrosion
- planning subtidal marine operations
- drivers of local and regional ocean circulation and conditions, including:
 - ocean current systems
 - weather patterns
 - tides
 - seasonal changes, including freshwater inflows
 - extraordinary storms and temperature events
- maritime regulations and approvals for commercial survey work on vessels
- workplace health and safety assessment for conducting subtidal marine monitoring
- biosecurity measures for subtidal marine monitoring techniques and equipment
- operating and emergency procedures for subtidal marine monitoring work.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in the field and according to the conditions specified in the Performance Evidence
- resources, equipment and materials:
 - live marine life in situ
 - specific tools and equipment required for a monitoring program
 - specific items of personal protective equipment
 - materials and consumables
- specifications:
 - specific workplace procedures and processes for conducting monitoring programs

- manufacturer operating instructions for monitoring equipment
- workplace instructions for monitoring program
- relationships:
 - experts
 - supervisor
- timeframes:
 - according to timeframes specified in monitoring program.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

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